

**BiliSoft Phototherapy System**

APR 17 2006

510(k) Summary

**Submitter Information**

Lumitex, Inc.  
8443 Dow Circle  
Strongsville, OH 44136  
Phone : 440-243-8401  
Fax : 440-243-8402  
Contact Person : Jeff Williams, VP Engineering  
Email: jwilliams@lumitex.com  
Date Prepared : September 30<sup>th</sup>, 2005

**Device Names**

Classification name: Unit, Neonatal Phototherapy  
Common Name: Phototherapy light, Bili Light  
Trade Name: BiliSoft™ Phototherapy System

**Predicate Device Information**

The BiliSoft phototherapy System is substantially equivalent to the following, legally marketed products:

- Ohmeda Medical, a division of Datex-Ohmeda– BiliBlanket Plus High Output Phototherapy System
- Natus – neoBLUE LED Phototherapy
- Medela – Bili Phototherapy Unit

**Indications for Use**

The Bili-Soft Phototherapy System provides light therapy for the treatment of hyperbilirubinemia, commonly known as neonatal jaundice, during the newborn period in the hospital or home setting. The Bili-Soft Phototherapy System emits a narrow band of blue light considered to be the most effective in the treatment of hyperbilirubinemia.

**Product Description**

The Bili-Soft Phototherapy System is a mobile phototherapy device that delivers high intensity blue light using blue light emitting diodes (LEDs) that transmit light to a fiber optic pad.

The device consists of a light source box and one of two different size fiber optic pads. The light source operates in a single light intensity mode and includes features such as an over temperature indicator with automatic LED shutoff and an hour meter to indicate life. The light source has an automatic universal voltage selection of 90-264 VAC at 47-63 Hz.

Fiber optic pad covers are made of a clear, medical grade, hypoallergenic and latex-free material. The smaller fiber optic pad emits an average output of 35  $\mu\text{W}/\text{cm}^2/\text{nm}$  through a typical snuggly/pad cover, and the larger fiber optic pad emits an average output of 50  $\mu\text{W}/\text{cm}^2/\text{nm}$  through a typical snuggly/pad cover. Disposable fiber optic pad covers are available to help comfortably position the baby on the fiber optic pad and to prevent cross contamination of bodily fluids between infants.

LED's have very little light degradation over their lifetime with proper use and care. During normal operating conditions the device is expected to last for approximately 10,000 hours. Once the LED's have reached the end of their life a replaceable LED module is available for purchase. LED's emit no appreciable energy in the ultraviolet (UV) region of the spectrum, so there is no concern for UV exposure to the infant. In addition, LED's emit no significant energy in the infrared (IR) region of the spectrum; therefore there is no concern for excessive warming of the infant due to IR energy.

#### **Performance Data**

Since the treatment of neonatal hyperbilirubinemia with phototherapy is a well establish clinical practice, clinical or animal testing to demonstrate safety and effectiveness is not necessary. The product has been subject to extensive bench testing, and the requirement of 21 CFR 820, Subpart C – Design Controls – were satisfied.

#### **Sterilization Information**

The BiliSoft Phototherapy system is not intended to be supplied sterile. Cleaning and disinfecting instructions can be found in the Operation and Maintenance Manual.



Food and Drug Administration  
9200 Corporate Boulevard  
Rockville MD 20850

APR 17 2006

Mr. Jeff Williams  
Vice President of Engineering  
Lumitex, Incorporated  
8443 Dow Circle  
Strongsville, Ohio 44136

Re: K053568  
Trade/Device Name: BiliSoft Phototherapy System  
Regulation Number: 880.5700  
Regulation Name: Neonatal phototherapy unit  
Regulatory Class: II  
Product Code: LBI  
Dated: March 16, 2006  
Received: March 17, 2006

Dear Mr. Williams:

We have reviewed your Section 510(k) premarket notification of intent to market the device referenced above and have determined the device is substantially equivalent (for the indications for use stated in the enclosure) to legally marketed predicate devices marketed in interstate commerce prior to May 28, 1976, the enactment date of the Medical Device Amendments, or to devices that have been reclassified in accordance with the provisions of the Federal Food, Drug, and Cosmetic Act (Act) that do not require approval of a premarket approval application (PMA). You may, therefore, market the device, subject to the general controls provisions of the Act. The general controls provisions of the Act include requirements for annual registration, listing of devices, good manufacturing practice, labeling, and prohibitions against misbranding and adulteration.

If your device is classified (see above) into either class II (Special Controls) or class III (PMA), it may be subject to such additional controls. Existing major regulations affecting your device can be found in the Code of Federal Regulations, Title 21, Parts 800 to 898. In addition, FDA may publish further announcements concerning your device in the Federal Register.

Please be advised that FDA's issuance of a substantial equivalence determination does not mean that FDA has made a determination that your device complies with other requirements of the Act or any Federal statutes and regulations administered by other Federal agencies. You must comply with all the Act's requirements, including, but not limited to: registration and listing (21 CFR Part 807); labeling (21 CFR Part 801); good manufacturing practice requirements as set forth in the quality systems (QS) regulation (21 CFR Part 820); and if applicable, the electronic product radiation control provisions (Sections 531-542 of the Act); 21 CFR 1000-1050.

This letter will allow you to begin marketing your device as described in your Section 510(k) premarket notification. The FDA finding of substantial equivalence of your device to a legally marketed predicate device results in a classification for your device and thus, permits your device to proceed to the market.

If you desire specific advice for your device on our labeling regulation (21 CFR Part 801), please contact the Office of Compliance at (301) 594-4618. Also, please note the regulation entitled, "Misbranding by reference to premarket notification" (21CFR Part 807.97). You may obtain other general information on your responsibilities under the Act from the Division of Small Manufacturers, International and Consumer Assistance at its toll-free number (800) 638-2041 or (301) 443-6597 or at its Internet address <http://www.fda.gov/cdrh/dsma/dsmamain.html>

Sincerely yours,

A handwritten signature in black ink, appearing to read "Chiu Lin", with a stylized flourish at the end.

Chiu Lin, Ph.D.

Director

Division of Anesthesiology, General Hospital,

Infection Control and Dental Devices

Office of Device Evaluation

Center for Devices and

Radiological Health

Enclosure

## Indications for Use

510(k) Number (if known): \_\_\_\_\_

**Device Name:** BiliSoft Phototherapy System

### Indications for Use:

The BiliSoft Phototherapy System provides light therapy for the treatment of hyperbilirubinemia, commonly known as neonatal jaundice, during the newborn period in the hospital or home setting. The BiliSoft Phototherapy System emits a narrow band of blue light considered to be the most effective in the treatment of hyperbilirubinemia.

Prescription Use X  
(Part 21 CFR 801 Subpart D)

AND/OR

Over-The-Counter Use \_\_\_\_\_  
(21 CFR 801 Subpart C)

(PLEASE DO NOT WRITE BELOW THIS LINE-CONTINUE ON ANOTHER PAGE  
OF NEEDED)

Concurrence of CDRH, Office of Device Evaluation (ODE)

Division of Biotechnology, General Hospital  
Division of Dental Devices

K053568

Page 1 of 1